

# Nitrogen PSA Generators NITROSWING® NS-900



## Typical Applications

- Blanketing of Chemicals and Pharmaceuticals
- Gas Assisted Injection Molding (GAIM)
- Heat Treatment of Ferrous & Non-Ferrous Metals
- Inerting of Flammable Liquids
- Laser Cutting
- Prevention of Dust Explosions
- Re-flow and Wave Soldering of PCBs
- UV-Curing of Coatings

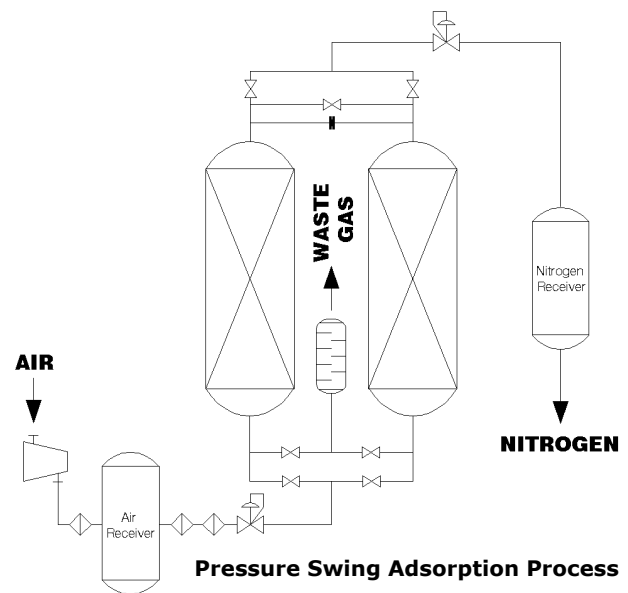
## Advantages of NITROSWING® PSA's

- **Safety:** Low Operating Pressures, no Hazardous Storage
- **Economy:** Low Operating Cost, Easily Expandable
- **Convenience:** Fully Automatic and Unattended Operation
- **Reliability:** Easy to Install and Maintain

## The Nitrogen Production Process

IGS Nitrogen PSA Generators separate nitrogen (N<sub>2</sub>) from compressed air utilizing pressure swing adsorption technology. Compressed air, which consists of approximately 21% oxygen and 78% nitrogen, is passed through a bed of carbon molecular sieve (CMS). The sieve preferentially adsorbs O<sub>2</sub> and moisture over N<sub>2</sub> allowing the N<sub>2</sub> to pass through as a product gas at pressure. While one of the towers is in the adsorption phase the other tower is regenerated by de-pressurizing at which time the sieve releases the adsorbed gases to the atmosphere and the cycle is then repeated.

A solid state programmable controller operates the process valves on an alternating cycle with built-in logic for automatic stop/start. Nitrogen flow and purity remain constant regardless of the peak usage demands. Under normal operating conditions and with correct maintenance the carbon molecular sieve will have an almost indefinite lifetime.



### Standard Components

- Air Filters
- Adsorber Vessels
- Pneumatic Valves
- Piping and Instrumentation
- Safety Valve
- Exhaust Muffler
- Nitrogen Pressure and Flow Regulator
- Control System with Allen-Bradley PLC
- Skid Mounted
- Pressure Switch for automated Idle-Mode
- Hour Meter

### Options

- Oxygen Analyzer (Zirconium Oxide type)
- Dew Point Analyzer
- Product Flow Meter
- Fail Safe Package (off-spec nitrogen automatically vented to atmosphere\*)
- Enhanced PLC with Telemetry
- Purities to 99.9999% with a De-Oxo System
- Feed Air Compressor
- Product Booster Compressor
- Monitor Package (with indication of Feed Air and Product Pressures and Temperatures, Oxygen Concentration and Product Flow on AB PanelView\*\*)
- Air Receiver Tank
- Nitrogen Buffer Tank
- Bottle Filling Station

\* Only in combination with Oxygen Analyzer Option  
\*\* Includes Oxygen Analyzer and Flow Meter

## NITROSWING NS-900L Series Specifications & Performance

Standard	SI 7.5 Bar(g) feed pressure and 21° C					US 109 PSIG feed Pressure and 70° F				
Oxygen %	Nitrogen Nm <sup>3</sup> /h	Nitrogen Pressure Bar (g)	Feed Air Nm <sup>3</sup> /h	Air Receiver Liters <sup>(3)</sup>	Nitrogen Receiver Liters <sup>(3)</sup>	Nitrogen SCFH	Nitrogen Pressure PSIG	Feed Air SCFH	Air Receiver Gallons <sup>(3)</sup>	Nitrogen Receiver Gallons <sup>(3)</sup>
3	1,545	5.5	3,107	10,001	40,915	54,563	80	109,720	2,200	9,000
2	1,363	5.7	2,935	10,001	40,915	48,144	83	103,653	2,200	9,000
1	1,121	6.0	2,649	10,001	22,730	39,585	87	93,538	2,200	5,000
0.5	969	6.1	2,715	10,001	22,730	34,236	88	95,883	2,200	5,000
0.1	515	6.2	2,007	10,001	11,638	18,188	90	70,878	2,200	2,560
0.05	397	6.2	1,837	10,001	10,001	14,027	90	64,860	2,200	2,200
0.01	303	6.2	1,646	10,001	10,001	10,699	90	58,145	2,200	2,200
0.005	236	6.2	1,601	10,001	7,046	8,321	90	56,530	2,200	1,550
0.001	165	6.2	1,412	10,001	4,819	5,812	90	49,871	2,200	1,060
Dew Point <sup>(2)</sup>	-40°C / -40°F									
Sound Level	< 85 dB(A)									

## NITROSWING NS-900H Series Specification & Performance

Standard	SI 10 Bar(g) feed pressure and 21° C					US 145 PSIG feed Pressure and 70° F				
Oxygen %	Nitrogen Nm <sup>3</sup> /h	Nitrogen Pressure Bar (g)	Feed Air Nm <sup>3</sup> /h	Air Receiver Liters <sup>(3)</sup>	Nitrogen Receiver Liters <sup>(3)</sup>	Nitrogen SCFH	Nitrogen Pressure PSIG	Feed Air SCFH	Air Receiver Gallons <sup>(3)</sup>	Nitrogen Receiver Gallons <sup>(3)</sup>
3	2,057	8.0	4,137	11,638	*	72,645	116	146,080	2,560	*
2	1,945	8.2	4,187	11,638	*	68,683	119	147,872	2,560	*
1	1,459	8.5	3,447	11,638	40,915	51,512	123	121,721	2,560	9,000
0.5	1,085	8.6	3,038	11,638	22,730	38,304	125	107,276	2,560	5,000
0.1	561	8.7	2,186	11,638	13,638	19,812	126	77,209	2,560	3,000
0.05	457	8.7	2,114	11,638	11,638	16,143	126	74,645	2,560	2,560
0.01	374	8.7	2,033	11,638	10,001	13,208	126	71,784	2,560	2,200
0.005	262	8.7	1,779	11,638	10,001	9,246	126	62,811	2,560	2,200
0.001	194	8.7	1,669	11,638	7,046	6,868	126	58,938	2,560	1,550
Dew Point <sup>(2)</sup>	-40°C / -40°F									
Sound Level	< 85 dB(A)									

\* Consult IGS for vessel size

### Connections

Connections available in ANSI Flange, DIN Flange or NPT

### Approximate Weight and Dimensions

L	W	H	Weight
2,946	2,946	3,404 mm	8,313 kg
116	116	134 in.	18,326 lb

### Power Requirements

Power Supply 110-230 V / 50-60 Hz  
Power Consumption max. 0.3 kW

Consult IGS for specifications on specific model and desired options.

### Notes:

- (1) Flow rates at standard atmospheric conditions (70 °F, 14.7 psi / 20 °C, 1013 mbar and 60% RH)
- (2) Dew point at atmospheric pressure.
- (3) Receiver size is recommended minimum capacity. Smaller receiver volumes will result in lower product pressures. Please contact IGS for details.
- (4) NITROSWING PSA nitrogen generators can be configured for use in food processing and packaging applications however, it is recommended that you consult IGS before purchasing a generator for any food application.
- (5) Min. Air Quality: ISO 8573.1 / Class 1.4.1, improve feed air quality may cause damage to the nitrogen generator not covered under warranty.
- (6) Other pressures and purities available, consult IGS for specifications.
- (7) IGS reserves the right to change data without notice.
- (8) Only in case of an on-board installation of an oxygen analyzer and/or product flow meter.



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